DOCUMENT RESUME

ED 363 059 EC 302 515

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TITLE	Self-Study Guide to the Development of Educational Outcomes and Indicators: A Companion Piece to the Six Levels of Educational Outcomes and Indicators for Use by State Departments of Education, School Districts, and Local Schools.
INSTITUTION	National Association of State Directors of Special Education, Alexandria, VA.; National Center on Educational Outcomes, Minneapolis, MN.; Saint Cloud State Univ., MN.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	Sep 93
CONTRACT	H159C00004
NOTE	54p.; For related documents, see ED 354 661, ED 359 691, and ED 361 926-927.
AVAILABLE FROM	Publications Office, National Center on Educational Outcomes, University of Minnesota, 350 Elliott Hall, 75 East River Rd., Minneapolis, MN 55455 ($12).
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Data Collection; Decision Making; *Disabilities; Elementary Secondary Education; *Evaluation Methods; Models; *Outcomes of Education; Program Development; *Program Evaluation; Program Implementation; Recordkeeping; *Student Educational Objectives
IDENTIFIERS	*Outcome Based Education

ABSTRACT

This guide is intended to help develop and implement an outcomes assessment program at the school, district, or state level. An introduction summarizes the purposes of this approach to assessment, which focuses on results rather than process. A four-step process is outlined. The first step is to establish a solid foundation for assessment efforts, including: involving stakeholders up front, determining why outcomes should be measured, defining terms, considering assumptions, and resolving the fundamental issues in outcomes assessment. Step 2 involves developing, adopting, or adapting a model. The importance of selecting an approach, defining outcome domains, defining outcomes, and defining indicators is explained. The establishment of a data collection and reporting system is step 3. Components of this step are deciding on data sources, developing or adapting data collection and analysis mechanisms, and deciding how to report and use the information. The final step is installing the system, including creating incentives and gaining support for their adoption and use, preparing staff and public for the changes, and evaluating the system as it is implemented. Contains 36 references to suggested resource materials and 21 citations of organizational sources for technical assistance. (DB)

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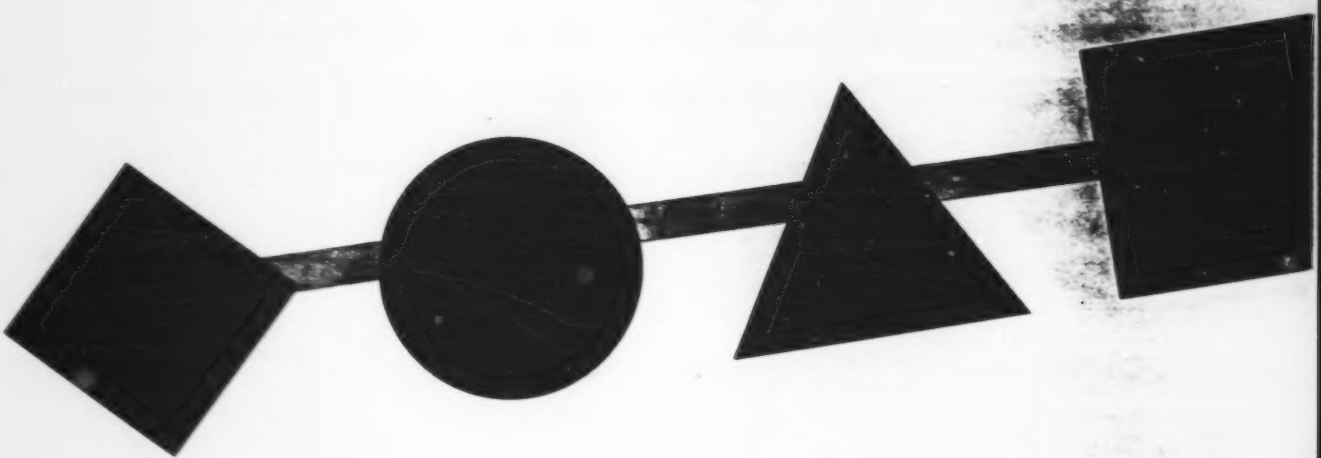
ED 363 059

Self-Study Guide to the Development of Educational Outcomes and Indicators

A Companion Piece to the Six Levels of Educational Outcomes and Indicators for Use by State Departments of Education, School Districts, and Local Schools



EC 302 515

NATIONAL CENTER ON EDUCATIONAL OUTCOMES

The College of Education
UNIVERSITY OF MINNESOTA

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September, 1993

Prepared by James E. Ysseldyke
and Martha L. Thurlow

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The National Center on Educational Outcomes (NCEO) was established in October, 1990, to work with state departments of education, national policy-making groups, and others to facilitate and enrich the development and use of indicators of educational outcomes for students with disabilities. NCEO represents a collaborative effort of the University of Minnesota, the National Association of State Directors of Special Education, and St. Cloud State University.

Support for NCEO comes through Cooperative Agreement H159C00004 with the U.S. Department of Education, Office of Special Education Programs. Opinions or points of view do not necessarily represent those of the U.S. Department of Education or offices within it.

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Acknowledgments

Special acknowledgment for extensive assistance in the writing and rewriting of this document goes to:
Kenneth Olsen

Gratitude also goes to the following individuals who provided input on the document and the ways in which it should be revised:
Eileen Ahearn
Marsha Brauen
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Special thanks go to NCEO's project officer at the Office of Special Education Programs for continued input and support in the development of this document:
Louis Danielson

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Preface

The National Center on Educational Outcomes (NCEO) has been developing a conceptual model of outcomes and indicators to enhance outcomes assessment. It has convened groups to define terminology, examine the fundamental assumptions that underlie the process of assessing outcomes, develop a model of outcomes and indicators, and specify outcomes and possible indicators. So far, NCEO has published:

Educational Outcomes and Indicators for Students Completing School

Educational Outcomes and Indicators for Individuals at the Post-School Level

***Educational Outcomes and Indicators for Early Childhood* (Age 3)**

***Educational Outcomes and Indicators for Early Childhood* (Age 6).**

NCEO works with state and federal education agencies to facilitate and enhance the development and use of indicators of educational outcomes that are applicable to all students, including students with disabilities. While developing its model, NCEO has worked closely with educators, parents, policymakers, advocates, and researchers throughout the nation who have given NCEO broad consensus on its approach and on the model. NCEO is eager to see states, districts, and local schools capitalize on its efforts by collecting outcomes data that can help to improve the results of education for all students, including those with disabilities.

This *Self-Study Guide* is written for you, whether you are in a state department of education, a local school district, or a local school. In this guide you will find that NCEO incorporates what it has learned through its national efforts as well as some of the experiences of state and local personnel who so generously shared their expertise. The text describes a step-by-step process that captures most of what NCEO has learned and organizes the information into an easy-to-implement handbook.

Use this guide as a companion piece to the outcomes and indicators booklet series being produced for six developmental levels: age 3, age 6, grade 4, grade 8, school completion and post school, all of which are available from NCEO. However, do not limit yourself to the outcomes and indicators in these booklets, but use them as a starting point. By adding and revising outcomes and indicators, you address **your** state/community contexts and **your** specific needs for information.

NCEO's overall goal is to increase the availability and use of educational outcomes information to help you improve programs, create better policies, increase accountability for outcomes, and improve public perceptions of education for **all** children and youth.

Introduction

Purpose and Uses

This user's guide will help you develop a system of outcomes and indicators to evaluate educational results in your school, district, or state. It includes the information you will need to develop and implement an outcomes-assessment program. It takes you step-by-step through a process to create a system of outcomes and indicators, using resource tools developed at NCEO. This process is similar to the one NCEO used when it developed a conceptual model of outcomes and indicators and sets of outcomes and indicators for six developmental levels.

It is unlikely that your unique state, school district, or school would simply implement all of the NCEO outcomes and indicators at a specific level. More than likely, you will have to modify them for your own system. This guide illustrates how to do that using NCEO's materials as a resource.

State Education Agencies (SEAs) have begun to use the NCEO model of outcomes and indicators in a number of interesting ways. For example, in one state, SEA personnel collect data on the extent to which students accomplish the instructional objectives specified in their individualized education program (IEP). The SEA expects to produce a report on educational accomplishments for students with disabilities following the outline of domains in the NCEO model.

In another state, educators use the NCEO model to develop transition IEPs for students with disabilities. They require transition teams to develop objectives in each of the eight outcome domain areas specified in the NCEO model. In still another state, educational personnel group IEP objectives on the basis of the NCEO model and then use curriculum-based measurement approaches to monitor progress toward those objectives. In yet another state, the SEA holds a statewide competition among its school districts. The winning districts produce report cards on the educational progress of students with disabilities based on the NCEO model.

Policy Options for Outcomes-based Accountability are explored in a document entitled *Issues and Options in Outcomes-based Accountability for Students with Disabilities*, produced by the Center for Policy Options in Special Education at the University of Maryland. Among the topics addressed are the relationship between general and special education outcomes, high-stakes accountability, options for selecting outcomes-based accountability systems, and issues in implementing systems of data collection. (See *Resource Materials* on page 44.)

Why outcomes and indicators?

A national shift has occurred in business, industry, and human services from a focus on **process** (what we do) to **results** (what we cause). This trend is most evident in education. The public wants to learn about more things than the numbers of teachers and their degrees, quality of facilities, types of books in the libraries and classrooms, length of the school day or year, and range of educational experiences offered. They want to know what effects educational experiences have on children. They ask, "Are students learning?" and "Does schooling have a positive influence on children, youth and their communities?"

The resources that schools have and the practices that they use are only significant to the extent that they contribute to the desired results. For years educators have collected and reported information about resources and practices (or "inputs" and "processes") without linking them to results or outcomes. However, knowing that X number of dollars has been spent or that the curriculum addresses all of the national goals for education does not help to answer the hard question: "Is this effective?" To answer that question, educators need to know what outcomes are expected, to translate those outcomes into some measurable indicators, and to have a system for measuring and reporting the indicators. Only then will it be possible to know whether those outcomes are being achieved.

Overview of the Steps

An effective way to develop a system of outcomes and indicators involves four major steps as summarized in the Quick-Reference Check List on the next page. The pages that follow explain each step in more detail. Please note, however, that although these steps appear in a sequential manner, the actual development process is not so linear. Instead, it requires reconsideration of earlier steps as later decisions are made.

Some Resources

This *Self-Study Guide* provides an overview of four steps that lead to a system of outcomes and indicators. If you find that you need more assistance than what this guide offers, refer to the resource materials and the technical assistance sources listed on pages 44 through 49.

QUICK-REFERENCE CHECK LIST

1. Establish a solid foundation for your efforts.

___ Involve stakeholders up front

___ Decide why you want to measure outcomes

___ Define your terms

___ Consider your assumptions

___ Resolve the fundamental issues in assessment of outcomes

2. Develop, adopt, or adapt a model.

___ Select your approach

___ Define your outcome domains

___ Define your outcomes

___ Define your indicators

3. Establish a data collection and reporting system.

___ Decide where you will get your data

___ Develop/adapt data collection and analysis mechanisms

___ Decide how you will report and use the information

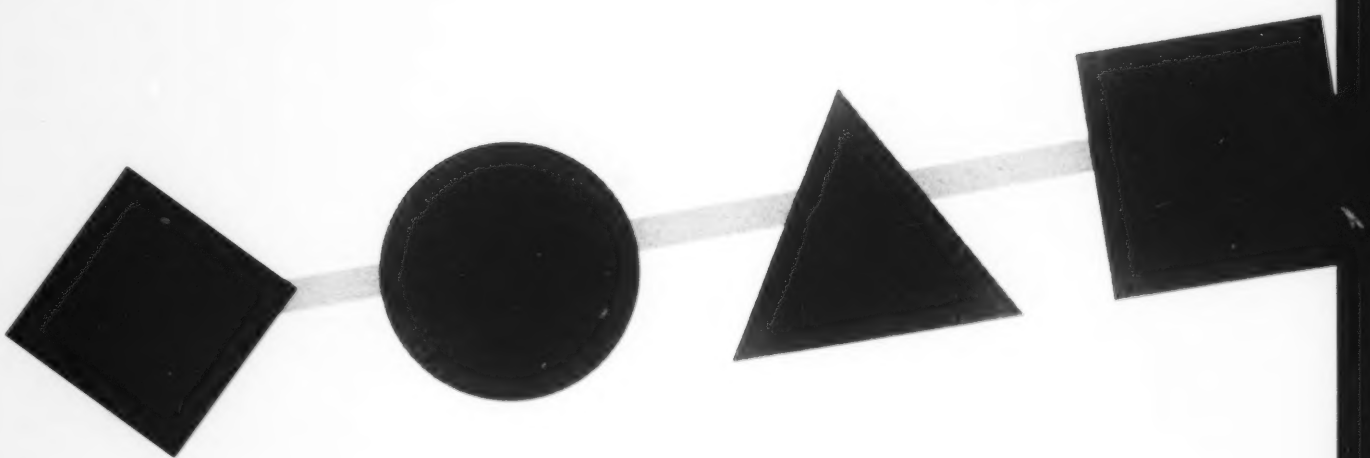
4. Install the system.

___ Create incentives and support for adoption and use

___ Prepare staff and the public for the changes

___ Evaluate the system as it is implemented

Step 1
Establish a Solid Foundation for Your Efforts



Involve Stakeholders Up Front

Stakeholders are quite literally everyone who has a "stake" in the process of measuring educational outcomes: teachers, supervisors, and any related services personnel. Make certain that you involve all stakeholders in the process of developing an outcomes model and outcomes assessment system for your setting. It is especially important to involve parents and representatives of community agencies in setting outcomes to be measured.

Involving all stakeholders on the front end of development helps you consider the range of perspectives and needs that will have to be addressed as the system architecture begins to emerge. When stakeholders participate in the development of a system that will be used with them they develop a better understanding of the rationale for and issues in implementing the system. They also are more likely to support the maintenance and use of the system through their informal and formal networks.

NCEO's stakeholder involvement efforts used a nomination process. NCEO asked advocacy groups, governmental agencies, professional organizations, and other interested parties to nominate people who could best articulate their perspective as stakeholders. NCEO found that a nomination process helped to establish a two-way communication link. Stakeholders brought that group's perspective to the planning, became sufficiently informed through the process to understand the decisions being made, and had access to the group's meetings, newsletters and other vehicles to communicate about the decision-making process. In short, NCEO tried to be inclusive and representative, and at the same time picked people with enough expertise to be helpful.

Involving those who will be most affected by your efforts will help ensure success. However, keep in mind that involvement does not necessarily mean that your stakeholders have to attend meetings. There can be several levels of involvement, from working on a core development team to simply being informed. The worksheet on page seven might help you identify potential stakeholders and consider ways to involve them in the process of developing your outcomes model and outcomes assessment system.

Step 1 **Establish a Solid Foundation for Your Efforts**
- **◆ Involve stakeholders up front**
- Decide why you want to measure outcomes
- Define your terms
- Consider your assumptions
- Resolve the fundamental issues in outcomes assessment

Step 2 Develop, Adopt, or Adapt a Model

Step 3 Establish a Data Collection and Reporting System

Step 4 Install the System

Step 1

Stakeholder Involvement

POSSIBLE STAKEHOLDER GROUPS	Core Team?	Steering Committee?	Other Involvement? (None? Just inform?)
Teachers			
Chapter I			
Early childhood			
English as second language (ESL)			
Middle			
Primary			
Secondary			
Special education			
Vocational education			
Other			
Therapists			
Occupational			
Physical			
Speech			
Principals			
Test and evaluation personnel			
School psychologists			
Curriculum specialists			
Supervisors/Coordinators			
Transition/Work-study specialists			
Parents			
Gifted students			
Chapter I schools			
Students in special education			
Other			
School board members			
Legislators			
Business/industry personnel			
Local/state officials			
People from different cultures			
People from different regions			
Other			

Note: There are some materials listed in the Resource Materials section about involving stakeholders in developing evaluation and accountability systems. In addition, there are references for some materials that describe consensus-building techniques.

Decide Why You Want to Measure Outcomes

NCEO would like to think that all school personnel see the value in gathering data on educational outcomes. And you probably agree or you would not be reading this guide. But, why and for what purpose?

You might ask yourself and your stakeholders questions like:

- Why do we want to assess and evaluate educational outcomes?
- How will the data be used?
- Why is this important?

There are a number of good reasons to assess educational outcomes. Among them are:

- **Program Improvement**
- **Accountability**
- **Public Information**
- **Policy Formulation**

Program Improvement
Data on outcomes or results can help to identify strengths and weaknesses in instructional programs and contribute to developing ways to improve those programs. Knowing to what degree students, schools, and systems achieve desired outcomes is an essential component in the evaluation of instructional practices and resources.

For example, you might be concerned that your educational system lacks some essential outcomes. By using the structure of the NCEO outcomes model, you can examine a more comprehensive set of goals and outcomes for schooling so that all students, including students with disabilities, will be working toward a common set of goals.

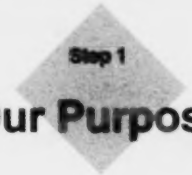
Accountability
Data are collected to document, for people in authority, the extent that expected outcomes of schooling are being achieved. Outcomes accountability data are used to judge whether a student, school, or local or state school system is meeting its obligations. States may decide to trade compliance with certain rules for flexibility in procedures, permitting innovation with practices at the local level in exchange for outcomes accountability. The NCEO model and outcomes at various levels might be used as the basis for an effective system of outcomes accountability.

Step 1	**Establish a Solid Foundation for Your Efforts**
	◦ Involve stakeholders up front
	◆ **Decide why you want to measure outcomes**
	◦ Define your terms
	◦ Consider your assumptions
	◦ Resolve the fundamental issues in outcomes assessment
Step 2	Develop, Adopt, or Adapt a Model
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

Public Information
Collected data can demonstrate to the general public the level to which outcomes are being achieved. The NCEO model serves as a framework for reporting information to the public about how well the schools serve children and about outcomes and results at selected developmental levels.

Policy Formulation
The NCEO model helps you look at possible intended and unintended dependent variables in policy studies. Outcomes data, usually in conjunction with process data, are collected to contribute to the selection of alternatives for establishing a policy. For example, you might want to look at the effects of a collaborative learning program versus a peer tutoring program in a variety of outcome areas.

There are many reasons to evaluate the outcomes of instruction, and it is important that you identify your purposes carefully. Well-defined purposes help set goals and ensure that the collected data are used for their intended purposes. A well-defined purpose specifies **why** you are collecting outcomes data, **what** you intend to collect in terms of level or other focus, **who** you see as the primary user of the information, and **how** you expect the information to be used. The worksheet on page 10 will help you and your stakeholders organize your thoughts about the purposes of an outcomes system.



Why are we collecting outcomes data?

What data will we collect?

Who do we see as the primary audience for data reports?

How do we expect data to be used?

Define Your Terms

Terms like "outcomes" and "indicators" have multiple meanings in professional and popular literature. You should come to agreement with your stakeholders on definitions of these and other terms that might cause confusion. Doing so will improve communication and avoid potential misunderstandings later. NCEO personnel spent a considerable amount of time reaching agreement on the terms "outcomes" and "indicators." You must decide whether you can accept these definitions or whether you need to redefine the terms.

Outcomes
Outcomes are the result of interactions between individuals and schooling experiences. Results are what can/should/does happen when a person has educational experiences. They may be direct or indirect, positive or negative, and intended or unintended.

Indicators
Indicators are symbolic representations of one or more outcomes (or inputs, contexts, or processes) that can be used in making comparisons. Indicators provide ways of knowing what could/should be looked at to find out whether desired results are being reached. They can be numbers or other representations such as test scores, levels of participation in activities, or perceptions of student accomplishments by parents or others. They can be used for comparisons over time, for comparisons to an absolute standard, or, as NCEO typically uses them, for comparisons among and within groups.

Depending on your context and purpose for collecting outcomes information, you also will have to define other terms. Some that have proven difficult in states that NCEO has worked with are listed on the worksheet. For instance, a particularly difficult definitional issue arose when NCEO had to describe outcomes that enable a student to reach the ultimate outcomes of schooling, for example, accommodation skills. Are these "enablers" or "prerequisites" or are they also "outcomes" as NCEO finally decided? You must decide such issues for yourself.

Step 1	**Establish a Solid Foundation for Your Efforts**
	• Involve stakeholders up front
	• Decide why you want to measure outcomes
	◆ **Define your terms**
	• Consider your assumptions
	• Resolve the fundamental issues in outcomes assessment
Step 2	Develop, Adopt, or Adapt a Model
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

Stakeholder Involvement

ESSENTIAL TERMS	How we will use them
Outcome	Suggestion: The result of interactions between individuals and schooling experiences. **Our definition:**
Indicator	Suggestion: A symbolic representation of one or more outcomes (or inputs, contexts, or processes) that can be used in making comparisons. **Our definition:**

Other terms that might need discussion and/or definition:
Accountability, all students, anchors, assessment, benchmarks, content standards, criterion referenced tests, curriculum, curriculum alignment, curriculum framework, demonstrators, domain, enablers, evaluation, fundamental skills, learning goals, measurement, outcomes-based/-focused/-driven education, performance measurement, performance tasks, performance standards, prerequisites, proficiency, rubrics, school performance, scope and sequence, system outcomes, testing, valued outcomes, world class.

OTHER TERMS CRITICAL TO US	How we will use them

Consider Your Assumptions

Any system of outcomes and indicators is based on a number of assumptions.

After a considerable amount of time, NCEO reached agreement on the fundamental assumptions that underlie the outcomes and indicators model and its use. The assumptions listed on the worksheet and described in detail in NCEO's *Working Paper 2: An Evolving Model of Educational Outcomes for Children and Youth with Disabilities*, were reviewed by other professionals, parents, advocacy groups, representatives of professional associations, and policymakers.

You should examine the extent to which your stakeholders agree with these assumptions, whether they share additional assumptions, and whether these need to be modified for your purpose.

Step 1	**Establish a Solid Foundation for Your Efforts** • Involve stakeholders up front • Decide why you want to measure outcomes • Define your terms ◆ **Consider your assumptions** • Resolve the fundamental issues in assessment of outcomes
Step 2	Develop, Adopt, or Adapt a Model
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

Which of these nine NCEO assumptions can serve as the foundation for our development efforts without change?

__ 1. A model of outcomes is needed for **all** students, and at the broadest level, should apply to all students regardless of the characteristics of individuals.

__ 2. A model of outcomes should primarily focus on intended outcomes, but be sensitive to unintended outcomes as well.

__ 3. A model of outcomes should include both direct and indirect outcomes.

__ 4. Indicators of outcomes for students receiving special education services should be related, conceptually and statistically, to those identified for students without disabilities.

__ 5. Indicators should reflect the diversity of gender, culture, race and other characteristics of the students in today's school population.

__ 6. While indicators should meet research standards, those that do not could still be used.

__ 7. A comprehensive system of indicators should provide data needed to make policy decisions at the national, state, and local levels.

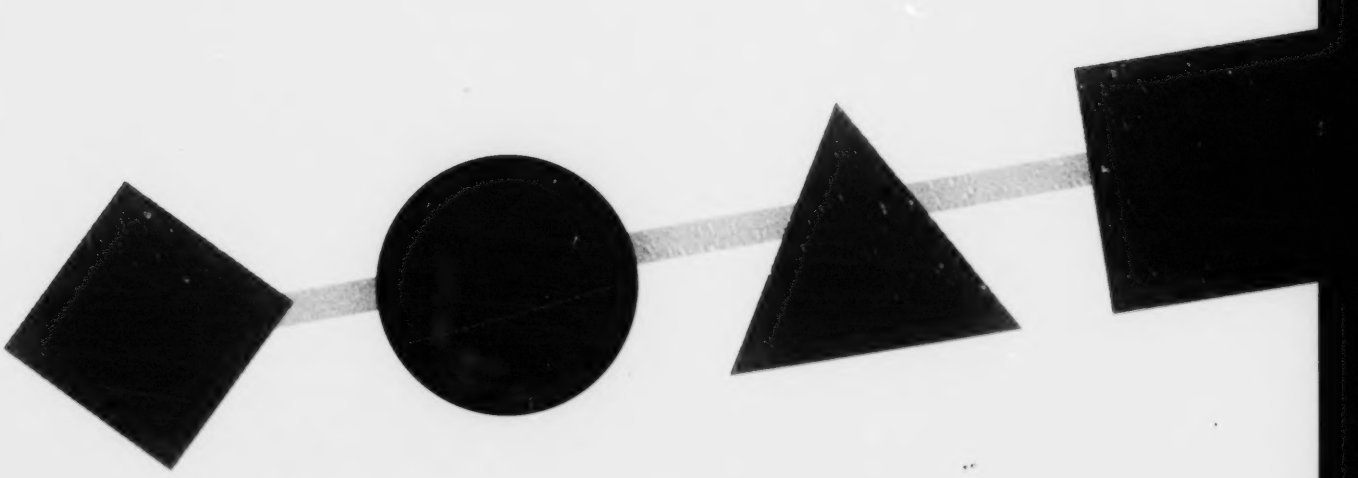
__ 8. A comprehensive system of indicators should be based on demonstrated functional relationships between outcome indicators and indicators of educational inputs, and contextual characteristics and processes; however, valued indicators may be included even if functional relationships have not been established.

__ 9. A comprehensive system of indicators should be flexible, dynamic, and responsive to review and criticism. It should also change to meet identified needs and future developments in the measurement of inputs, contexts, processes, and outcomes.

Which assumptions can we edit to be acceptable to our stakeholders? (Make the changes in the text above.)

What additional assumptions do we share? (List them below.)

Step 2
Develop, Adopt, or Adapt a Model



Select Your Approach

The outcomes assessment process needs to be driven by a conceptual model that shows how your educational system should work. The current NCEO model is shown on the next page. An extensive consensus-building process has helped design the model and, if your results from Step 1 match the decisions that NCEO made, you should be able to apply this model in your setting with only minor changes. If your group's assumptions differ from NCEO's or if your group resolved the fundamental issues in a different way, you might want to review the *Resource Materials* or *Sources for Technical Assistance* on pages 44 and 47 for alternatives.

The NCEO model suggests that **resources (input** and **context)** influence **educational opportunity** and **process**, which in turn influence educational outcomes. NCEO has divided educational outcomes into **outcome domains**. As explained in NCEO documents, the model is then extended by identifying specific outcomes for domains, indicators of those outcomes, and possible sources of data for those indicators.

Your model might be more or less complex than this one. Depending on your purpose, you might find it important to provide more detail about the contexts, resources, opportunities, and processes that lead to the desired or expected outcomes.

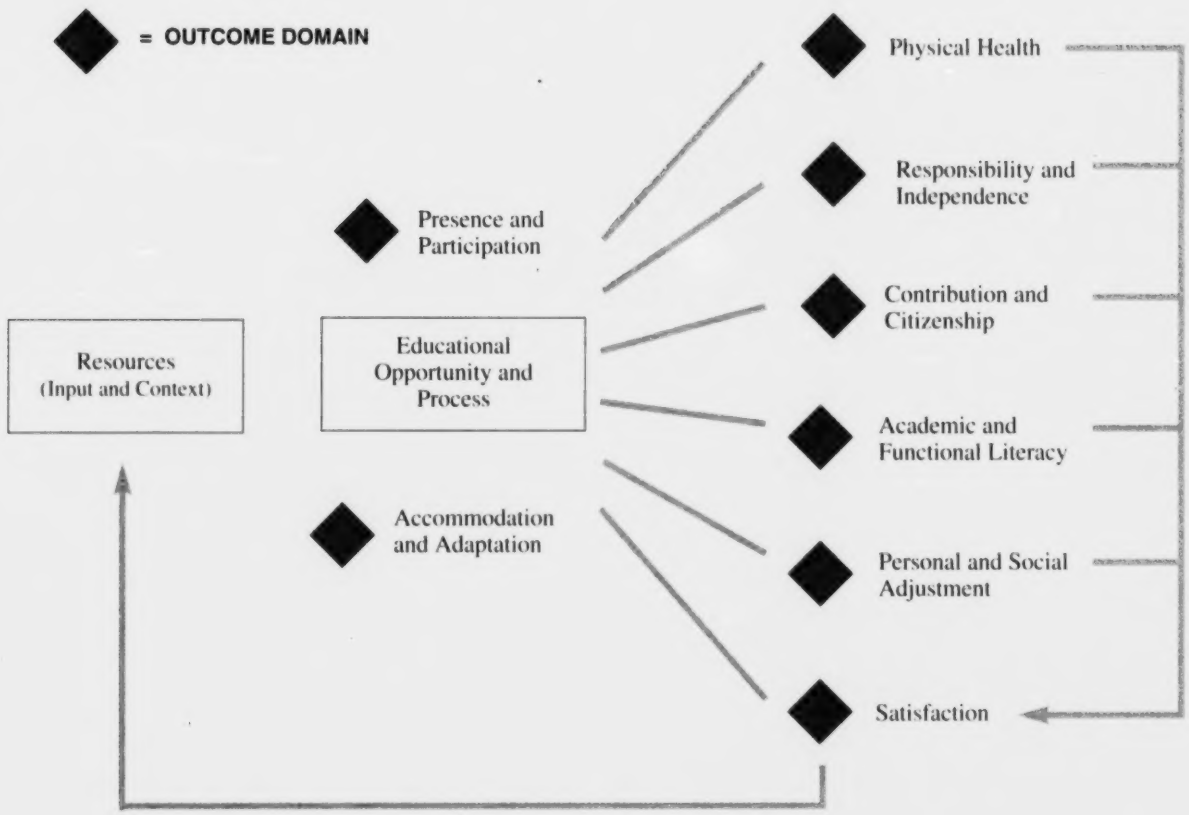
The worksheet on page 20 will help you through the process of deciding whether you want to develop a new model, adopt the NCEO model, or adapt the NCEO model to meet your needs.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	**Develop, Adopt, or Adapt a Model**
	● **Select your approach**
	● Define your outcome domains
	● Define your outcomes
	● Define your indicators
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

This conceptual model shows the complete educational process, with Resources (Input and Context) influencing Educational Opportunity and Process. These, in turn, influence the Outcome Domains (the shaded areas), which have a return influence on both Resources, and Educational Opportunity and Process.

Two of the shaded domains, Presence and Participation, and Accommodation and Adaptation, are placed next to Educational Opportunity and Process. This reflects their greater association with process variables even though they are measured as outcomes.

Conceptual Model of Outcomes School Completion



Our Conceptual Model

Are our purpose, assumptions, and decisions about fundamental issues sufficiently consistent with those of NCEO that we can adopt the NCEO conceptual model as shown on page 19? (If yes, stop here and go to next step.)

If we cannot **adopt** the NCEO model, can we **adapt** it? If so, to what extent must we modify the NCEO picture of resources, opportunities, processes, and outcomes?

If we change the model, what should we add or take away to better describe how our education system works?

Sketch of our revised/adapted model:

Define Your Outcome Domains

As a major step in creating a conceptual model you will have to specify the domains that define the outcomes that you expect your educational system to produce or that you want to track. NCEO has considered many outcome domains, including the possibility of using the National Education Goals as a framework.

No single framework met all of NCEO's assumptions, especially the need to be sufficiently inclusive to encompass the full range of social and life role outcomes in addition to academic outcomes. NCEO had to develop a framework that incorporated all of the other approaches and still spanned the developmental levels. With the help of stakeholders, NCEO chose the following six outcome domains:

- Physical Health
- Responsibility and Independence
- Contribution and Citizenship
- Academic and Functional Literacy
- Personal and Social Adjustment
- Satisfaction

NCEO also identified two other domains that remain objects of debate as "outcomes" – Presence and Participation, and Accommodation and Adaptation. It linked these two areas to the Educational Opportunity and Process portion of the conceptual model because some stakeholders viewed them as interim or enabling outcomes rather than as targets of education. However, most stakeholders viewed them as critical outcomes, especially for students who historically have been disenfranchised, such as students with disabilities, ESL students, and Chapter I students.

You will have to determine to what extent you need to include those types of outcomes in your model. The worksheet on page 22 is designed to help you define your outcome domains.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	**Develop, Adopt, or Adapt a Model**
	○ Select your approach
	● **Define your outcome domains**
	○ Define your outcomes
	○ Define your indicators
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

Step 2

Conceptual Model of Educational Outcomes

Do the six primary NCEO outcome domains generally reflect the expectations of our educational system? Are these the areas that we need to track? What needs to be added or removed to reflect our purposes?

Physical Health – Healthy behaviors, attitudes, and knowledge related to physical health.
Responsibility and Independence – Behavior that reflects the ability to function independently and assume responsibility for self.
Contribution and Citizenship – Return to society and participate as citizen in society.
Academic and Functional Literacy – Use of information to function in society, to achieve goals, and to develop knowledge.
Personal and Social Adjustment – Socially acceptable and healthy behaviors, attitudes, and knowledge regarding mental well-being.
Satisfaction – Favorable attitude toward education.

Should we track these outcomes in the educational opportunity and process arena?

Presence/Participation – An individual's presence in a particular setting and the extent to which meaningful participation occurs.

Accommodation and Adaptation – Modifications made to allow other accomplishments.

What are the domains for our system? How will we define them?

Domains	Definitions

Define Your Outcomes

You will have to define the outcomes in each domain before they can be easily communicated.

NCEO first defined outcomes in a way that possibly could apply across all developmental levels by drafting a broad definition of each domain. But as work began with groups, it became clear that more traditional statements needed to be produced.

While attempting to clearly communicate the expectations of the domain, NCEO avoided producing statements that were limiting and would not apply to all ages and groups. As NCEO's efforts continued, some outcomes were excluded from certain developmental levels, while others were added.

You will have to decide whether to adopt or adapt NCEO's outcome statements or develop another set. Again, your choices will depend on your earlier decisions. You also will have to decide whether you want to use a single set of outcomes for all developmental levels and apply other rules to reflect your decisions about the fundamental issues raised in step one of the process. These issues are:

- Single system versus separate, related systems
- Whether to differentiate based on age/grade levels
- Categorical versus non-categorical indicators
- Whether to differentiate based on ability
- System versus individual indicators
- Whether to consider enablers and prerequisites as outcomes.

On page 24, you will find a worksheet to help you document answers to these questions.

Step 1 Establish a Solid Foundation for Your Efforts

Step 2 Develop, Adopt, or Adapt a Model

- Select your approach
- Define your outcome domains
- **Define your outcomes**
- Define your indicators

Step 3 Establish a Data Collection and Reporting System

Step 4 Install the System

Step 2

Outcomes

Will we include the following NCEO outcomes? Will we follow the NCEO approach and develop outcomes specific to each developmental level?

Include?	Levels?	NCEO Domains (A-H) and Outcomes at the School Completion Level
		A. Presence and Participation
A1 _____	_____	Is present in school
A2 _____	_____	Participates
A3 _____	_____	Completes school
		B. Accommodation and Adaptation
B1 _____	_____	Makes adaptations, accommodations, or compensations necessary to achieve outcomes in each of the major domains
B2 _____	_____	Demonstrates family support and coping skills
		C. Physical Health
C1 _____	_____	Makes healthy lifestyle choices
C2 _____	_____	Is aware of basic safety, fitness, and health care needs
		D. Responsibility and Independence
D1 _____	_____	Gets about in the environment
D2 _____	_____	Is responsible for self
		E. Contribution and Citizenship
E1 _____	_____	Complies with school and community rules
E2 _____	_____	Knows the significance of voting and the procedures to register and vote
E3 _____	_____	Volunteers
		F. Academic and Functional Literacy
F1 _____	_____	Demonstrates competence in communication
F2 _____	_____	Demonstrates competence in problem-solving strategies and critical thinking skills
F3 _____	_____	Demonstrates competence in math, reading and writing skills
F4 _____	_____	Demonstrates competence in other academic and nonacademic skills
		G. Personal and Social Adjustment
G1 _____	_____	Copes effectively with personal challenges, frustrations, and stressors
G2 _____	_____	Has a good self image
G3 _____	_____	Respects cultural and individual differences
G4 _____	_____	Gets along with other people
		H. Satisfaction
H1 _____	_____	Student satisfaction with high school experience
H2 _____	_____	Parent/guardian satisfaction with the education that students receive
H3 _____	_____	Community satisfaction with the education that students receive

Define Your Indicators

Your outcomes must be translated into indicators, which are symbolic representations that can be used in making various kinds of comparisons. Over time, these comparisons can be made to an absolute standard, or, between and within groups. Indicators provide information on whether desired results are being reached. Using NCEO's definition, indicators can be numbers or other representations. You will want to review the assumptions that you adopted with your stakeholders. NCEO's assumptions will lead you in very specific directions regarding such things as measurability (see step 1).

NCEO has elected to develop indicators specific to each of six developmental levels. Use of this approach allows you to track the same outcome domains for students at different ages using developmentally relevant information. Unfortunately, there is not enough space in this guide to show all of the indicators at all of the levels. All six documents may be ordered to accompany this guide. Here are two examples from the school completion level:

***Domain E*:** Contribution and Citizenship.
***Outcome E3*:** Volunteers.
***Indicator a*:** Percent of students who volunteer time to school, civic, community, or nonprofit activities.

***Domain F*:** Academic and Functional Literacy
***Outcome F3*:** Demonstrates competence in math, reading, and writing skills.
***Indicator e*:** Percent of students who demonstrate competence in writing necessary to function in their current home, school, work, and community environments.

For each outcome, you might have several indicators. For example, NCEO's stakeholders had identified five other indicators for outcome F3 – demonstrates competence in math, reading, and writing skills – for students completing school.
You will not be able to collect data on every possible indicator at every level. You will have to go through a process of brainstorming possible indicators and then narrowing down the list to those that are most appropriate for your system and most meaningful for your purposes.

To develop indicators, NCEO asked experts in a variety of areas to suggest potential indicators at each of the levels. These were compiled and edited into similar language for use with teams of stakeholders at each level who worked through a consensus-building process to select the indicators that best reflected the outcome domain and the outcomes. As appropriate, indicators were edited further so they clearly described how the outcomes would be represented during the data collection phase. The worksheet on page 26 will help you examine the indicators that you define.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	**Develop, Adopt, or Adapt a Model**
	○ Select your approach
	○ Define your outcome domains
	○ Define your outcomes
	● **Define your indicators**
Step 3	Establish a Data Collection and Reporting System
Step 4	Install the System

Step 2

Indicators

Check your indicators as you proceed through this step, perhaps using this worksheet with your stakeholder group(s):

Are our indicators consistent with our assumptions?

If we collected information using these indicators, would we fulfill the purpose we stated?

Have we considered a full array of indicators for each outcome domain and each outcome in our model? Are there any outcomes without indicators?

Is each indicator inclusive? Can we obtain that information on all students? If not, can the indicator be changed to be more inclusive?

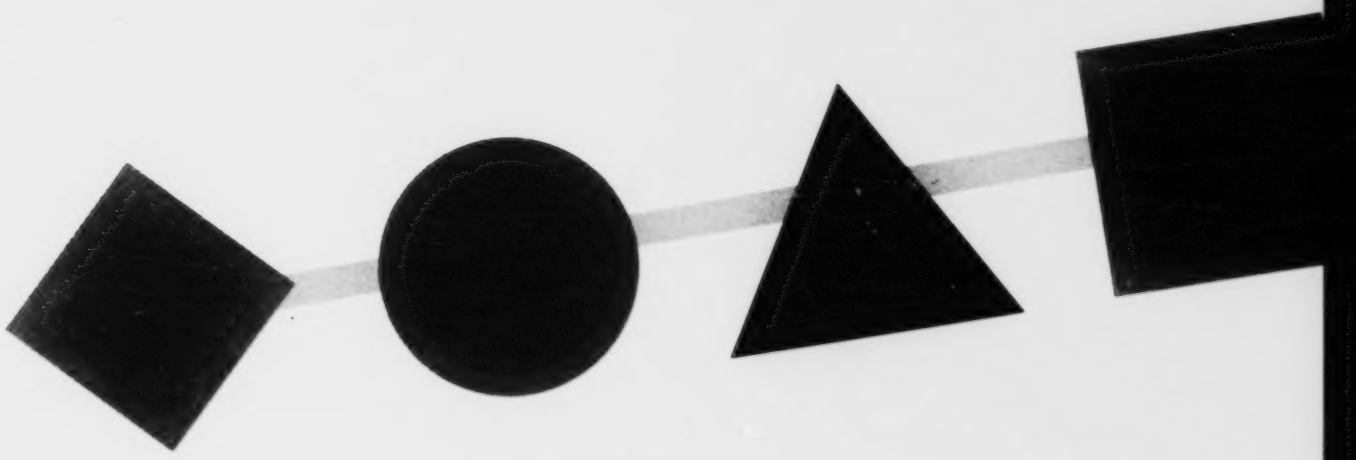
Have we narrowed down the indicators through a consensus-building process that will allow us to target the most important information that our stakeholders want about the outcomes?

Have we focused on what is really important, listing significant and needed indicators before determining whether they can be collected?

Will our final set of indicators meet the criteria that experts apply to evaluation and data systems?

USEFUL.....	Provides practical information for our intended audiences.
FEASIBLE....	Results in a system that is realistic, prudent, diplomatic and frugal.
PROPER.....	Is legal and ethical regarding those involved and affected.
ACCURATE...	Reveals and conveys technically adequate information for our purpose.

Step 3
Establish a Data Collection and Reporting System



Decide Where You Will Get Your Data

Before you document your status on indicators, you must have each indicator linked to at least one data source. One of NCEO's hopes is that available data will be used rather than developing new data systems. Therefore, you need to look at existing systems to determine whether they contain information on the indicators that stakeholders have selected.

You might start by asking yourself, "What information are we already collecting that is consistent with this indicator?" Among the types of school, district, and state sources that could be considered are survey, interview, and evaluation results, data bases, individual files, and other less systematic data such as meeting summaries. Information available in the community, such as employment rates, also can help in judging outcomes.

Next you can prepare a list of matches and misses. Not every data source will be a perfect match. At the beginning stages of system development you will want to include existing sources that approximate the indicator while you are developing data systems that are more specific.

For example, to measure achievement of a writing outcome you might want a portfolio that includes a direct measure of student writing skills in home, school, work, and community environments. However, you might have to settle for the results from your district-wide on-demand writing tests or more limited writing portfolios. Later, you could find or develop more ways to document the full indicator. In the meantime, you will be able to demonstrate that the indicator was not ignored.

In many cases, you may find that data already exist, but not in a form that is easily accessible. An example would be a hand written note in a student file or a file maintained by the police department or social services. List all such data sources anyway during the development phase, and then investigate whether such data can be made appropriately accessible for your use.

Some of the data sources you might consider are listed on the worksheet on page 29. And, you might find that you have identified data sources that you need but that do not yet exist. These items are candidates for future data collection systems.

Step 1 Establish a Solid Foundation for Your Efforts

Step 2 Develop, Adopt, or Adapt a Model

Step 3 Establish a Data Collection and Reporting System

▲ Decide where you will get your data

▲ Develop/adapt data collection and analysis mechanisms

▲ Decide how you will report and use the information

Step 4 Install the System

Have we considered the following school and school system data as we have checked for matches and misses on our indicators?

Data bases/compiled records:

- Attendance, dropout, and graduation records
- Budgets
- Club/organization membership lists
- Discipline records
- End-of-course testing records
- Grades
- Portfolio ratings
- School or system-wide test results and national testing
- Student tracking system data

Individual records:

- Individual student files, e.g., IEP files
- Personnel records
- Therapy notes/records

Survey/interview data from:

- Parent/public
- Policymakers/board members/legislators
- Students
- Staff
- Work-study employers

Records that might not be available in easily accessible form:

- Correspondence files
- Evaluation reports from outside groups
- Minutes of board meetings
- Minutes of PTA meetings
- Observation notes
- Site-based Management Council minutes
- Videotapes: classes, playgrounds, club activities, student projects
- Work samples

Have we considered the following examples of non-school records as we have checked for matches and misses on our indicators?

- Census data
- City records, i.e., regarding housing, employment, abuse, health, etc.
- Hospital, child care, recreation, volunteer, or other community records
- Newspaper articles/data on education or social issues
- State planning department records
- Vandalism/juvenile detention/corrections records
- Voter and driver registrations

Develop/Adapt Data Collection and Analysis Mechanisms

It is likely you will have to create new data collection mechanisms to address new indicators or to include populations that you have not included before. Your data collection systems need to be sensitive to cultural differences during sampling, instrument development, data collection, and analysis.

Check existing data for accuracy and completeness. Ask yourself whether students with unique characteristics (for example, students with disabilities, ESL students, Chapter I students) were included.

When NCEO studied state and national testing systems, it found that as many as 50 percent of students with disabilities were excluded from testing. Often the exclusion was based on a category of disability or placement rather than being based on individual skills and needs.

Many assessment systems are now being made more inclusive. This involves being more systematic about including students in testing, providing consistent adaptations and accommodations, and providing alternative measures for students whose curriculum differs from the general curriculum (students with significant cognitive disabilities). For instance, Kentucky has an alternative portfolio system for students with severe disabilities so that these portfolios can be included, with the regular portfolios in the total picture of a school and district.

To decide what form your data should take, see NCEO's indicator statements for help. You will find that most of NCEO's indicators deal with percentages and rates. Comparisons over time will be an important future component of your system requiring yearly maintenance of data in a consistent format. Comparisons between groups require obtaining information from another source on a comparable population (like from a district or state or from national statistics). Comparisons to an absolute standard require a formal standard-setting process.

Some states are separating data based on non-standard testing or non-standard collections from the total pool. If you choose this method, you will want to find other ways to demonstrate how all students did on each outcome.

Developing new data collection instruments and procedures requires a carefully considered process of design, development, field testing, revision, sampling, training, collection, error checking, data entry, and analysis. Quantitative (numbers) and qualitative (words) procedures demand significant expertise. Consult with an expert when you decide to develop new information components. Sources in the section *Sources for Technical Assistance* can give you guidance. Some of the issues in data collection that you will want to discuss are included on page 31.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	Develop, Adopt, or Adapt a Model
Step 3	**Establish a Data Collection and Reporting System**
	▲ Decide where you will get your data
	▲ Develop/adapt data collection and analysis mechanisms
	▲ Decide how you will report and use the information
Step 4	Install the System

Step 3

Data Collection and Analysis

Are the existing data sources we selected inclusive of all in terms of:

- Instrument design and field testing?
- Sampling?
- Data collection?
- Allowed accommodations and adaptations?
- Analysis?

Are the existing data free from significant errors?

Are the existing data accessible to us for re-analysis and long-term storage if necessary?

Do we have the expertise to develop the new data collection systems that we need?

Have we accounted for all students in our instrument design, development, field testing, revision, sampling, training, collection, error checking, data entry, and analysis plans?

Do our data reflect observed behavior and valid, reliable measures to the greatest extent possible?

Is our projected total data burden worthwhile for the information we are obtaining? Are the data feasible to collect and maintain?

Is our data collection and analysis still focused on our purpose, or have we drifted? Will it help our audience(s) make decisions?

Decide How You Will Report and Use the Information

How you report on outcomes should be driven entirely by your stated purpose. The key criteria involve addressing the information needs of your intended audience(s) and not violating the agreements understood in your plan for data collection.

Most likely your audience is someone other than yourself or your staff. That means that you will have to ask the intended audience what would help it make decisions consistent with your stated purpose (like program improvement, accountability, public information, or policy formulation). You can show the audience some alternative mock tables and charts and simulate a reporting/decision-making session. It is helpful to do this even before you collect data to avoid collecting too much or too little information.

Probably the most important decision to be made deals with the use of the outcomes data. Uses that have what are called "high stakes" can have negative consequences on subsequent data collection. High stakes exist when individuals or school systems receive rewards or sanctions based on the results. The mere release of information comparing one district or one school with another can be considered high stakes.

One state studied this phenomenon and found that high stakes reporting led to increased referrals of students to special education programs and increased retention of students in grade levels that were not being tested.

Ethics requires that reporting and using the data should be consistent with your original purpose. Violation of the pact made at the time of data collection can have devastating long-term effects for your system. Careful editing, inclusion of cautions, and controlled release of reports is essential to ensure attention to your purpose.

Other reporting decisions you will have to make deal with levels of reporting, types of comparisons to be reported, formats and types of reports, presentation of data, ways of grouping data, range of audiences, vehicles for dissemination, and year-to-year linkages. Some of these decisions are explained in greater detail in the worksheet on page 33, which will help you decide how you will report and use outcomes data.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	Develop, Adopt, or Adapt a Model
Step 3	**Establish a Data Collection and Reporting System**
	▲ Decide where you will get your data
	▲ Develop/adapt data collection and analysis mechanisms
	▲ Decide how you will report and use the information
Step 4	Install the System

Resolve the Fundamental Issues in Outcomes Assessment

As the model developed, NCEO was forced to address the following fundamental issues that you, too, will have to address:

- Single system versus separate, related systems
- Whether to differentiate based on age/grade levels
- Categorical versus non-categorical indicators
- Whether to differentiate based on ability
- System versus individual indicators
- Whether to consider enablers and prerequisites as outcomes

NCEO chose to develop a single set of outcomes that could be used for all students. To begin with, age levels were selected consistent with the major data collection systems in the nation, primarily the National Assessment of Educational Progress (NAEP) and the work of the National Education Goals Panel (NEGP). Therefore, NCEO chose age 6, grade 4, grade 8, and grade 12 (school completion) as key levels. However, because of the national emphasis on early childhood and the special need for information on the outcomes of early intervention services, age three was included. In addition, NCEO believed it was essential to look at post-school status in order to address concerns of groups like the Secretary's Commission on Achieving Necessary Skills (SCANS) and to determine long-term effects.

NCEO asked stakeholders about categorical versus non-categorical indicators and, while there was still some disagreement, the majority thought that statements of inclusive outcomes communicate positively about inclusive systems of education. Nevertheless, some states looked at establishing different **levels** of expectation, even if the students were working toward the same outcomes.

On the issue of system versus individual student outcome indicators, NCEO has elected to include both. Some stakeholders still argue, however, that the focus should be on individual student accomplishments and not on system accomplishments (dropout rates or percentage of students graduating).

NCEO has discussed these issues with various groups and individuals, and has found that there is never total agreement on the answers. You will need to engage in a discussion of the issues, attempt to reach consensus regarding them, and talk about how they affect the purpose and design of your assessment program. The questions on the following worksheet (page 16) might be useful in your discussions.

Step 1 **Establish a Solid Foundation for Your Efforts**
- Involve stakeholders up front
- Decide why you want to measure outcomes
- Define your terms
- Consider your assumptions
- ◆ **Resolve the fundamental issues in outcomes assessment**

Step 2 Develop, Adopt, or Adapt a Model

Step 3 Establish a Data Collection and Reporting System

Step 4 Install the System

Fundamental Issues

Will we develop a single system of outcomes and indicators to apply to all programs and all students or will we develop separate systems for separate programs?

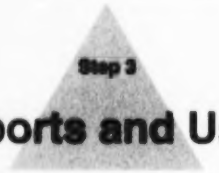
If we develop separate systems:

- How will they be interrelated?
- Will our system be further broken down by category of student, e.g., would students with different types of disabilities have different expected outcomes and different indicators?
- Would students with different levels of severity of disability have different expected outcomes?

At what age or grade levels will we define outcomes and collect outcomes data?

Will we have system-level outcome indicators as well as indicators of individual student learning?

Will we have only ultimate educational outcomes or also include necessary prerequisites that we want to track such as presence, participation, accommodations, and modifications?



Reports and Uses

Do our reporting formats meet the needs and expectations of our audiences?

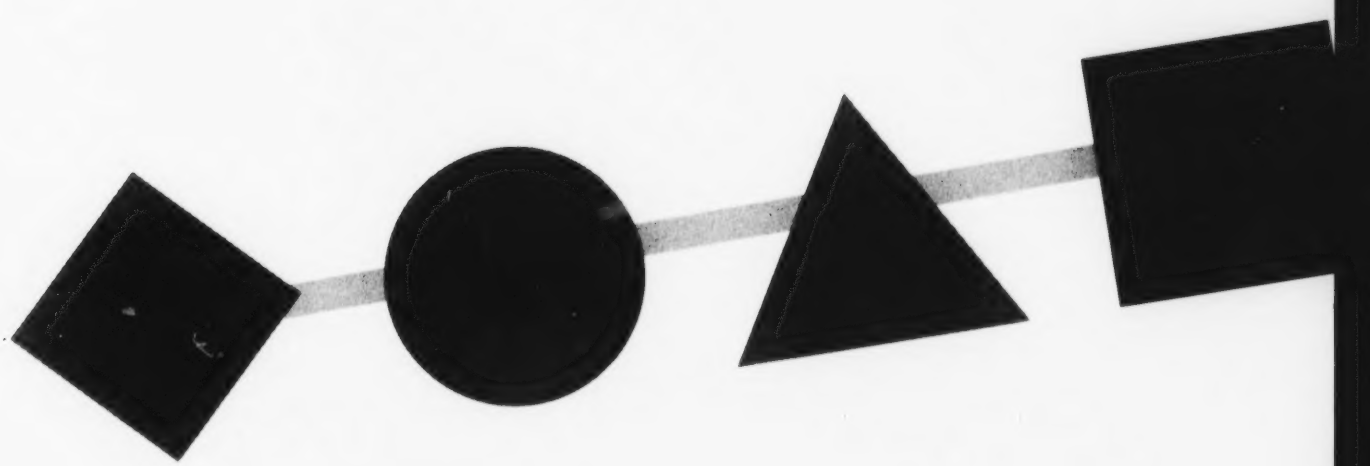
Have we considered the implications of high stakes uses of our outcomes data?

Is our plan for reporting and use consistent with our stated purpose?

Have we considered the following:

- Level(s) of reporting — student, classroom, school, district, region and/or state.
- Types of comparisons to be reported — over time, against comparable groups, against benchmarks.
- Format of report(s) — printed, verbal, slide/tape, videotape/TV.
- Presentation of data — tables, graphs, charts, pictures, stories.
- Ways of grouping data — by gender, race, disability, age, region, opportunity to learn.
- Types of reports — brochures, executive summaries, abbreviated sets of tables, full technical reports.
- Range of dissemination — all school personnel, parents, the public, the media, other like entities (other schools, states, or districts).
- Vehicles for dissemination — through an intermediary such as a principal, via a major media event, in conjunction with an action planning activity.
- Year-to-year linkages — consistent logo, color, or cover format that can be used every year, maintenance of tables and charts for access, and updates in subsequent years.

Step 4
Install the System



Create Incentives and Support for Adoption and Use

A system of outcomes and indicators cannot be installed overnight. Those who implement and use the information will need to see personal and programmatic benefits before the system can be considered fully in place. Therefore, you must have incentives for the teachers, parents, and administrators who will ultimately ensure the success of the system. Also, you must provide long-term support to maintain the system.

Two commonly used incentives are public comparisons and sanctions for failure to meet standards or goals. Public comparisons formally display schools, districts, or states side-by-side. Sanctioning involves negative techniques such as withdrawal of accreditation, takeovers of schools, and reduction of funding based on identification of less-than-adequate outcomes. Both comparisons and sanctions represent "high stakes" uses of the system. They can lead to overemphasis on appearances, even without substantive changes.

You can use at least five approaches as positive incentives for adoption and use. The following techniques may be used independently or together:

Fund research and demonstration projects as pilots.
You can fund projects at schools throughout the state or district to work out the bugs in an outcomes measurement system and let the schools serve as sites where other district or school personnel can visit and learn from their peers. This approach allows adopters to make the choice of adoption rather than being forced into using the system.

Establish recognition and networking systems.
You can establish recognition and networking systems for schools and districts that begin to install the outcomes measurement system and use it to help improve their programs. For example, you can create an appeal for others to join the leaders in the district or state by using newsletters and electronic message systems. These can describe how the system is being installed and used in various places (but **not** list their specific results).

Or, you can support meetings of system managers and users for the purpose of discussing issues and learning about extended options. This approach can become an especially powerful incentive if you involve parents in looking at the activities in other schools or districts.

Step 1 Establish a Solid Foundation for Your Efforts

Step 2 Develop, Adopt, or Adapt a Model

Step 3 Establish a Data Collection and Reporting System

Step 4 Install the System
- **Create incentives and support for adoption and use**
- Prepare staff and the public for the changes
- Evaluate the system as it is implemented

Market the system.
By using marketing techniques targeted at specific audiences, you can stimulate adoption and use of an outcomes measurement system. First, study the needs of each audience and then, communicate how the system responds or can respond to those needs.

Provide resources for some of the installation or use.
Providing some of the human, equipment, materials, and fiscal resources needed for installation and operation of the system can increase the number of adopters rapidly, even if the amount of support is limited. For example, you can provide mini-grants to use for installation purposes (like, staff training or purchasing consultant services), provide some of the needed hardware or software, provide instrumentation or guidelines, or provide data analysis support for site-specific uses.

Provide technical assistance.
You can offer sites the use of consultants in content areas or with computer or evaluation skills for a specified number of days after initial training and installation. At the discretion of the districts and schools, these consultants can guide sites through difficult areas and help them deal with context-specific problems. This approach leaves site leaders feeling supported and increases the chances of initial successes. (See the list *Sources for Technical Assistance* on page 47 for information on consultants.)

Additionally, it is essential that you arrange long-term support for ongoing maintenance, technical support, and use at the center where information will be handled. You will need commitment of staff time, hardware, software, and materials as well as commitment from decision makers to use the outcomes indicator information after it becomes available. The worksheet on page 38 provides the guiding questions for you to consider on incentives.

What incentives are we prepared to offer singly or in combination to increase our chances of wide-scale adoption and use without negative side effects?

What provisions have we made to maintain the central system after it is installed?

Prepare Staff and the Public for the Changes

You may find it difficult to change to an approach that focuses on outcomes rather than inputs and processes. It entails installing a system designed to document how well you do on a system-wide basis and requires both technical and affective changes. Therefore, a staff development plan becomes essential.

You can expect staff and parents to go through a variety of predictable stages: lack of interest or understanding, initial awareness and knowledge, decision to act, initial implementation, comfortable use, and adaptation and innovation. Since your staff will go through these stages at different speeds, be ready to provide them with training when needed. Also, remember that it is as important to train in-house staff as it is to train those in the cooperating sites – from secretaries to the school board chairperson. Additionally, there should be a plan to orient the general public and the media.

In the initial stages, you will need to convince staff and parents that they will not experience significant **personal loss** as the system is installed and that **personal benefits** will outweigh any losses. It is too early at this point to discuss such things as ultimate benefits to the community. Instead, concentrate on communicating to them about such things as how much time and effort it will take and how the results will be used. They will be concerned about the system's advantages over what they are currently using, how compatible it is with current systems and curricula, how complex it will be to install and maintain, whether they have to do it all at once or can install it in stages, and how immediately apparent the results will be to others.

After your people have decided to be participants, you will want to arrange for extensive training in the mechanics of gathering, reporting, and/or using the information (depending on their roles). At this point your focus should be on the "how to" of the system more than on the rationale and the implications. Plan more than a one-time training session for your various groups. Providing follow-along training and technical assistance will significantly increase your chances of success.

Early adopters who become accustomed to the system will be able to train others. As a bonus, you will begin to learn from them as they discover how to make the system meet additional needs, how to be innovative with the way the system operates in their sites, and how to use the information. If you create or suggest a system for ongoing idea exchanges, you can help move the adoption process along and can encourage people to stay with the system. Several questions to help you focus staff development efforts are included in the worksheet on page 40.

Step 1 Establish a Solid Foundation for Your Efforts

Step 2 Develop, Adopt, or Adapt a Model

Step 3 Establish a Data Collection and Reporting System

Step 4 Install the System

- Create incentives and support for adoption and use
- **Prepare staff and the public for the changes**
- Evaluate the system as it is implemented

Step 4

Staff Development

Based on the stakeholder list in step #1, what concerns will each stakeholder have about the installation of this system? How can we help each individual deal with her/his concerns about the following:

- Relative advantages
- Compatibility
- Complexity
- Potential for incremental installation
- Visibility

What training can we provide to meet the needs of individuals as they progress through the following stages of adoption at different speeds:

- Initial awareness and knowledge
- Decision to act
- Initial implementation
- Facile or comfortable use
- Adaptation and innovation

How will we ensure ongoing follow-along and technical assistance as implementation proceeds?

Will we provide for cross-unit networking?

Have we considered the needs of internal staff and policymakers as well as external staff?

Do we have a plan for orienting and training parents, the community, and the media?

Evaluate the System as it is Implemented

As you implement your system, gather information to help you continually evaluate and improve it. Your answers on the worksheets in this *Self-Study Guide* can serve as your standards.

Some evaluators find it helpful to ask questions at different stages, collect data to answer the questions, and then use the answers to make changes before going on to the next step. Sample questions for overall evaluation of your system are listed in the worksheet on page 42. You can form a special evaluation team to do this task, use outside experts, or just pose the questions to your development team at critical checkpoints. Using the development team will keep this group of stakeholders involved throughout the adoption and implementation of the system.

You should give special attention to monitoring the consequences of implementation. Since some systems have produced greater exclusion of students with disabilities from assessments, increases in special education referral rates, and increases in grade retention rates, it is important to monitor unintended consequences of implementation.

Step 1	Establish a Solid Foundation for Your Efforts
Step 2	Develop, Adopt, or Adapt a Model
Step 3	Establish a Data Collection and Reporting System
Step 4	**Install the System**
	▫ Create incentives and support for adoption and use
	▫ Prepare staff and the public for the changes
	■ **Evaluate the system as it is implemented**

Step 4

Evaluation at Stages of Implementation

Prior to a final decision to implement system and allocate resources:

Is our overall outcomes indicator system designed in a way that will be effective? Will we be able to produce the information that we want to produce, given our resources and the data collection, analysis, and reporting activities we have planned? Do the stakeholders agree with our plans? Do experts think our design meets standards?

Basics in place, but have not proceeded with data collection and analysis:

Are we ready to implement? Do we have the needed staff and are they prepared? Do we have the data processing equipment and materials we will need? Do we have the instrumentation? Is the climate right?

Actively implementing:

Are we being consistent with our plans? Are we using resources at the expected rate? Are we using staff time at about the estimated rate? Are we meeting our timelines? Are people satisfied so far? Are we storing and using data in proper ways?

Through a complete cycle:

Is the system having the desired effects on decision making? Did we accomplish our intended purpose? Are the results worth the effort? Are people satisfied?

After each subsequent cycle:

What have been the consequences of implementing an outcomes measurement? Do we need to reconsider any component of our system because of unintended consequences? Are there any other issues we need to revisit on any aspect of our system?

Some Final Thoughts

As you follow the steps in this *Self-Study Guide*, you will encounter challenges that have not been mentioned here. The *Resource Materials* and *Sources for Technical Assistance* sections of this guide should be helpful.

NCEO would be interested in hearing your comments, especially about your experiences in developing and implementing systems of outcomes and indicators. NCEO would also like to hear about unique uses of the NCEO outcomes model by states, districts, and local schools.

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RESOURCE MATERIALS

Each resource includes code symbols that correspond with the step(s) for which the resource will be most helpful:

Step 1 – ◆ Establish a Solid Foundation for Your Efforts

Step 2 – ● Develop, Adopt, or Adapt a Model

Step 3 – ▲ Establish a Data Collection and Reporting System

Step 4 – ■ Install the System

◆ ● ▲

A Conceptual Framework for State Policy Development
Samuelson, D., Elder, M. & Evans, J. (1990). Infants and Young Children, 2 (3), 79-86.

◆ ●

An Evolving Conceptual Model of Educational Outcomes for Children and Youth With Disabilities
Ysseldyke, J., Thurlow, M., Bruininks, R., Gilman, C., Deno, S., McGrew, K., & Shriner, J. (August 19, 1992). (Working paper 2). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

◆ ■

An Overview of Planning Steps and Techniques
Olsen, K. (1988). Lexington, KY: University of Kentucky, Mid-South Regional Resource Center.

◆ ●

Consensus Building: A Process for Selecting Educational Outcomes and Indicators
Vanderwood, M., Ysseldyke, J., & Thurlow, M. (1993). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

◆ ●

Developing a Model of Educational Outcomes
Ysseldyke, J., & Thurlow, M. (1993). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.

◆ ● ▲ ■

Developing a System of Education Indicators: Selecting, Implementing, and Reporting Indicators
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SCANS (June 1991). Washington, DC: US Department of Labor, Secretary's Commission on Achieving Necessary Skills.

SOURCES FOR TECHNICAL ASSISTANCE

The U.S. Department of Education provides funds to support technical assistance to states and local education agencies. Many existing sources of technical assistance have access to expertise in the development of outcomes, assessments, and accountability systems. Some of these are identified here.

REGIONAL EDUCATIONAL LABORATORIES

Clients: State and local education agencies.

Purpose: To help get the best available knowledge about improved practices and methods into the nation's classrooms, especially to foster and strengthen efforts to improve schooling for students at risk of leaving school unprepared for successful employment, further education or productive citizenship.

Number of Centers: 10

Funding: Office of Educational Research and Improvement (OERI)

Contact for further information:
OERI (202) 219-2116

Appalachia Educational Laboratory, Inc. (AEL)
1031 Quarrier Street
P.O. Box 1348
Charleston, WV 25325
(304) 347-0400
(800) 624-9120 (outside WV)
(800) 344-6646 (in WV)
Terry L. Eidell, executive director

Far West Laboratory for Educational Research and Development (FWL)
730 Harrison Street
San Francisco, CA 94107
(415) 565-3000
Dean H. Nafziger, executive director

Mid-continent Regional Educational Laboratory (McREL)
Denver office:
2550 S. Parker Rd., Suite 500
Aurora, CO 80014
(303) 337-0900
Kansas City office:
4709 Belleview Avenue
Kansas City, MO 64112
(816) 756-2401
C.L. Hutchins, executive director

North Central Regional Educational Laboratory (NCREL)
1900 Spring Rd., Suite 300
Oak Brook, IL 60521
(708) 571-4700
Jeri Nowakowski, executive director

Northwest Regional Educational Laboratory (NWREL)
101 SW Main Street, Suite 500
Portland, OR 97204
(503) 275-9500
Robert R. Rath, executive director

Pacific Regional Educational Laboratory (PREL)
1164 Bishop Street, Suite 1409
Honolulu, HI 96813
(808) 532-1900
John W. Kofel, executive director

Regional Laboratory of Educational Improvement of the Northeast and Islands
300 Brickstone Square, Suite 900
Andover, MA 01810
(508) 470-0098
David P. Crandall, executive director

Research for Better Schools, Inc. (RBS)
444 North Third Street
Philadelphia, PA 19123
(215) 574-9300
John E. Hopkins, executive director

Southeastern Regional Vision for Education (SERVE)
Headquarters:
University of North Carolina at Greensboro
P.O. Box 5367
Greensboro, NC 27435
(919) 334-3211 or (800) 755-3277
Field office:
Office of Policy Research and Improvement
Florida Department of Education
325 West Gaines Street, Suite 414
Tallahassee, FL 32399
(904) 488-1611
Roy H. Forbes, executive director

Southwest Educational Development Laboratory (SEDL)
211 East Seventh Street
Austin, TX 78701
(512) 476-6861
Preston C. Kronkosky, executive director

SOURCES FOR TECHNICAL ASSISTANCE (continued)

EVALUATION ASSISTANCE CENTERS

Clients: State Education Agencies (SEAs) and teachers and administrators in school districts with students in grades K-12 whose first language is not English.

Purpose: Provide technical assistance in program evaluation and student assessment under the Bilingual Education Act (ESEA, Title VII).

Number of Centers: 2

Funding: Office of Bilingual Education and Minority Language Affairs (OBEMLA)

Contact for further information:
OBEMLA-(202) 205-5463

Evaluation Assistance Center - Eastern Region (EAC-EAST)
The George Washington University
1730 North Lynn Street, #401
Arlington, VA 22209
(703) 528-3588
Fax: (703) 528-5973
Charlene Rivera, director

Intercultural Development Research Association
5835 Callaghan, #350
San Antonio, TX 78228
(512) 684-8180
Fax: (512) 684-5389
Albert Cortez, associate director

Evaluation Assistance Center Western Region (EAC-WEST)
New Mexico Highlands University
121 Tijeras NE, Suite 2100
Albuquerque, NM 87102
(800) 247-4269
(505) 242-7447 or 7472
Fax: (505) 242-7558
Paul Martinez, director

REGIONAL RESOURCE CENTERS

Clients: State Education Agencies (SEAs), and through those SEAs, to other state and local agencies in providing early intervention, special education, and related services to infants, toddlers, children, and youth with disabilities and their families.

Purpose: Increase agency capacity to meet the needs of infants, toddlers, children, and youth with disabilities and their families.

Number of Centers: 6 regional centers plus a federal center for coordination

Funding: Office of Special Education Programs (OSEP)

Contact for further information:
OSEP (202) 205-8007

Great Lakes Area Regional Resource Center (GLARRC)
The University of Ohio
700 Ackerman Road, Suite 440
Columbus, OH 43202
(614) 447-0844
Fax: (614) 447-9043
TDD: (614) 447-9186
Larry Magliocca, director

Mid-South Regional Resource Center (MSRRC)
University of Kentucky
114 Mineral Industries Building
Lexington, KY 40506
(606) 257-4921
Fax: (606) 258-1901
Robert L. Sterrett, director

Mountain Plains Regional Resource Center (MPRRC)
Utah State University
1780 North Research Parkway, #112
Logan, UT 84321
(801) 752-0238
Fax: (801) 753-9750
Glenn Latham, director

Northeast Regional Resource Center (NERRC)
Trinity College of Vermont
Burlington, VT 05401
(802) 658-5036
Fax: (802) 658-7435
TDD: (802) 860-1428
Special Net NERRC
Edith Beatty, director

South Atlantic Regional Resource Center (SARRC)
Florida Atlantic University
1236 North University Drive
Plantation, FL 33322
(305) 473-6106
Fax: (305) 424-4309
Timothy C. Kelly, director

SOURCES FOR TECHNICAL ASSISTANCE (continued)

Western Regional Resource Center (WRRC)
University of Oregon
Center on Human Development
Eugene, OR 97403
(503) 346-5641
Fax: (503) 346-5639
TDD: (503) 346-5641
Richard W. Zeller, director

Federal Resource Center for Special Education
Academy for Educational Development
1255 23rd Street NW, Suite 400
Washington, DC 20017
(202) 862-1487
Fax: (202) 466-8693
Carol H. Valdivieso, director

SPECIAL ASSESSMENT PROJECTS

National Center for Research on Evaluation, Standards, and Student Testing (CRESST)
(Funded by the Office of Educational Research and Improvement, U.S. Department of Education.)
UCLA Graduate School of Education
405 Hilgard Avenue
Los Angeles, CA 90024
(310) 206-1532
Fax: (310) 825-3883
Eva L. Baker and Robert L. Linn, co-directors

Center for the Study of Testing, Evaluation, and Educational Policy (CSTEEP)
(Funded by the National Science Foundation.)
323 Campion Hall
Boston College
Chestnut Hill, MA 02167
(617) 552-4521
Fax: (617) 552-8419
George F. Madaus, principal investigator

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